



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,530	10/31/2005	Georg Huthwohl	IF-114	6001
<div>23996 7590 08/22/2007</div> <div>RICK MARTIN</div> <div>PATENT LAW OFFICES OF RICK MARTIN, PC</div> <div>416 COFFMAN STREET</div> <div>LONGMONT, CO 80501</div>				
<div>EXAMINER</div> <div>MERKLING, MATTHEW J</div>				
<div>ART UNIT PAPER NUMBER</div> <div>1764</div>				
<div>MAIL DATE DELIVERY MODE</div> <div>08/22/2007 PAPER</div>				

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/532,530	Applicant(s) HUTHWOHL ET AL.	
	Examiner Matthew J. Merkling	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2006.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-27 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 10-27 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/31/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The examiner considered the international search report (dated January 2004) but lined through it as it is not a published document available to the public and will not be listed on the face of the patent if one is to be issued.

Claims Analysis

2. It is noted that claims 10-27 are recited as a "system" which does not clearly set forth which statutory category the invention belongs. It has been determined that the claims are directed to an apparatus and the appropriate principles for interpreting claims for that particular category of invention have been applied.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 10-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Huthwohl et al. (US 2002/0021988).

Regarding claim 10, Huthwohl discloses an exhaust gas after treatment system comprising:

an exhaust gas particulate filter (2),
a nitrogen oxide reduction catalytic converter (6c) connected
downstream of the exhaust gas particulate filter ([0033, 0034]), as seen in the
direction of flow of the exhaust gas (see Fig. 5),

an apparatus for adding reducing agent (7, [0032]),
wherein the exhaust gas particulate filter is designed as a porous
cylindrical filter body having a filter inner region (inner section, see Fig. 5) for
filtered exhaust gas, and in that reducing agent is added into the filter inner
region via the apparatus for adding reducing agent (see location of 7, on
inner side of filter in Fig. 5).

Regarding claim 11, Huthwohl further discloses the filter body is designed as a
cylindrical hollow body with a porous wall (see Fig. 5).

Regarding claim 12, Huthwohl further discloses the filter body is formed by
porous filter plates which are combined in pairs ([0023]).

Regarding claims 13-15, Huthwohl, as discussed in claims 10-12 above, further
discloses the exhaust gas particulate filter (2) and the nitrogen oxide reduction
catalytic converter (6c) are arranged in a common housing (see Fig. 5).

Regarding claims 16-21, Huthwohl, as discussed in claims 10-15 above, further
discloses an oxidation catalytic converter (6c, [0033, 0034]) is connected
upstream of the exhaust gas particulate filter, as seen in the direction of flow of
the exhaust gas (see Fig. 5).

Art Unit: 1764

Regarding claims 22-27, Huthwohl, as discussed in claims 16-21 above, further discloses the exhaust gas particulate filter and the oxidation catalytic converter are arranged in a common housing ([0033, 0034], see Fig. 5).

5. Claims 10, 11, 13, 14, 16, 17, 19, 20, 22, 23, 25 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Khair et al. (US 6,293,096).

Regarding claim 1, Khair discloses an exhaust gas after treatment system comprising:

an exhaust gas particulate filter (132),

a nitrogen oxide reduction catalytic converter (122) connected downstream of the exhaust gas particulate filter (see Fig. 2), as seen in the direction of flow of the exhaust gas,

an apparatus for adding reducing agent (140),

wherein the exhaust gas particulate filter is designed as a porous cylindrical filter body (see Fig. 2) having a filter inner region (downstream of 132 and before 122) for filtered exhaust gas, and in that reducing agent is added into the filter inner region via the apparatus (140) for adding reducing agent (see Fig. 2).

Regarding claim 11, Khair, as discussed in claim 10 above, further discloses the filter body (132) is designed as a cylindrical hollow body with a porous wall (wall flow, col. 6 lines 1-14).

Regarding claims 13 and 14, Khair, as discussed in claims 10 and 11 above, further discloses the exhaust gas particulate filter (132) and the nitrogen oxide

Art Unit: 1764

reduction catalytic converter (122) are arranged in a common housing (see Fig. 2).

Regarding claims 16, 17, 19 and 20, Khair, as discussed in claims 10, 11, 13 and 14 above, further discloses an oxidation catalytic converter (114) is connected upstream of the exhaust gas particulate filter (132), as seen in the direction of flow of the exhaust gas (see Fig. 2).

Regarding claims 22, 23, 25 and 26, Khair, as discussed in claims 16, 17, 19 and 20 above further discloses the exhaust gas particulate filter (132) and the oxidation catalytic converter (114) are arranged in a common housing (see Fig. 2).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1764

8. Claims 12, 15, 18, 21, 24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khair et al. (US 6,293,096) in view of Ban et al. (US 5,908,480).

Regarding claim 12, Khair, as discussed in claim 11 above, teaches the filter body is comprised of a porous filter, (wall flow) but fails to explicitly disclose the filter comprises filter plates which are combined in pairs.

However, it is well known in the art that exhaust gas treatment filters are commonly made from two plates, one corrugated and one flat, as evidenced by Ban (see plates A1 and B1 in Fig. 7B) which are joined in pairs.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to construct the filter of Khair with a pair of filter plates, as in Ban, in order to produce an effective particulate filter for an exhaust gas treatment.

Regarding claim 15, Khair, as discussed in claims 12 above, further discloses the exhaust gas particulate filter (132) and the nitrogen oxide reduction catalytic converter (122) are arranged in a common housing (see Fig. 2).

Regarding claims 18 and 21, Khair, as discussed in claims 12 and 15 above, further discloses an oxidation catalytic converter (114) is connected upstream of the exhaust gas particulate filter (132), as seen in the direction of flow of the exhaust gas (see Fig. 2).

Regarding claims 24 and 27, Khair, as discussed in claims 18 and 21 above further discloses the exhaust gas particulate filter (132) and the oxidation catalytic converter (114) are arranged in a common housing (see Fig. 2).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Merklings whose telephone number is (571) 272-9813. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MJM



Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700